

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANT:

(A) NAME: Griffiths R. A. L.  
(B) STREET: The Forensic Science Service, Priory House,  
Gooch St.  
(C) CITY: Birmingham  
(D) STATE: W Midlands  
(E) COUNTRY: United Kingdom  
(F) POSTAL CODE (ZIP): B5 6QQ

(A) NAME: Barber M. D.  
(B) STREET: C/O The Forensic Science Service, Priory  
House, Gooch Str.  
(C) CITY: Birmingham  
(D) STATE: W Midlands  
(E) COUNTRY: United Kingdom  
(F) POSTAL CODE (ZIP): B5 6QQ

(A) NAME: Johnson P. E.  
(B) STREET: C/O The Forensic Science Service, Priory  
House, Gooch Str.  
(C) CITY: Birmingham  
(D) STATE: W. Midlands  
(E) COUNTRY: United Kingdom  
(F) POSTAL CODE (ZIP): B5 6QQ

(A) NAME: Gillbard S. M.  
(B) STREET: C/O The Forensic Science Service, Priory  
House, Gooch Str.  
(C) CITY: Birmingham  
(D) STATE: W. Midlands  
(E) COUNTRY: United Kingdom  
(F) POSTAL CODE (ZIP): B5 6QQ

(A) NAME: Haywood M. D.  
(B) STREET: C/O The Forensic Science Service, Priory  
House, Gooch Str.  
(C) CITY: Birmingham  
(D) STATE: W. Midlands  
(E) COUNTRY: United Kingdom  
(F) POSTAL CODE (ZIP): B5 6QQ

(A) NAME: Smith C. D.  
(B) STREET: C/O The Forensic Science Service, Priory  
House, Gooch Str.  
(C) CITY: Birmingham  
(D) STATE: W. Midlands  
(E) COUNTRY: United Kingdom  
(F) POSTAL CODE (ZIP): B5 6QQ

(A) NAME: Arnold J.  
(B) STREET: C/O The Forensic Science Service, Priory  
House, Gooch Str.

- (C) CITY: Birmingham
- (D) STATE: W. Midlands
- (E) COUNTRY: United Kingdom
- (F) POSTAL CODE (ZIP): B5 6QQ

  

- (A) NAME: Burke T.
- (B) STREET: C/O The Forensic Science Service, Priory House, Gooch Str.
- (C) CITY: Birmingham
- (D) STATE: W. Midlands
- (E) COUNTRY: United Kingdom
- (F) POSTAL CODE (ZIP): B5 6QQ

  

- (A) NAME: Urquhart A J
- (B) STREET: C/O The Forensic Science Service, Priory House, Gooch Str.
- (C) CITY: Birmingham
- (D) STATE: W. Midlands
- (E) COUNTRY: United Kingdom
- (F) POSTAL CODE (ZIP): B5 6QQ

  

- (A) NAME: Gill P.
- (B) STREET: C/O The Forensic Science Service, Priory House, Gooch Str.
- (C) CITY: Birmingham
- (D) STATE: W. Midlands
- (E) COUNTRY: United Kingdom
- (F) POSTAL CODE (ZIP): B5 6QQ

(ii) TITLE OF INVENTION: Improvements in and relating to forensic identification

(iii) NUMBER OF SEQUENCES: 36

(iv) COMPUTER READABLE FORM:

- (A) MEDIUM TYPE: Floppy disk
- (B) COMPUTER: IBM PC compatible
- (C) OPERATING SYSTEM: PC-DOS/MS-DOS
- (D) SOFTWARE: PatentIn Release #1.0, Version #1.30

(EPO)

(vi) PRIOR APPLICATION DATA:

- (A) APPLICATION NUMBER: GB 9713597.4
- (B) FILING DATE: 28-JUN-1997

(2) INFORMATION FOR SEQ ID NO: 1:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 40 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

TCTATCTGTC TATCTGTCTG TCTGTCTGTC TATCTATCTA  
40

(2) INFORMATION FOR SEQ ID NO: 2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 48 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

TCTATCTGTC TGTCTGTCTG TCTATCTATC TATCTATCTA TCTATCTA  
48

(2) INFORMATION FOR SEQ ID NO: 3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 52 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

TCTATCTATC TGTCTGTCTG TCTGTCTATC TATCTATCCA TCTATCTATC TA  
52

(2) INFORMATION FOR SEQ ID NO: 4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 55 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

TCATTCATTC ATTCATCATT CATTCAATTCA TTCATTCAATT CATTCAATTG TTCAAT  
55

(2) INFORMATION FOR SEQ ID NO: 5:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 32 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

TCTATCTATC TATCTATCTA TCTATCTATC TA  
32

(2) INFORMATION FOR SEQ ID NO: 6:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 76 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

TCTATCTATC TGTCTATCTA TCTATCTATC TATCTATCTA TCTATCTATC TATCTATCTA  
60

TCTATCTATC TATCTA  
76

(2) INFORMATION FOR SEQ ID NO: 7:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 65 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

TTTCTTTCTT TCTTTTTCT CTTTCTTTCT TTCTTTCTTT TCTTTCTTTC TTTCTCCTTC  
60

CTTCC  
65

(2) INFORMATION FOR SEQ ID NO: 8:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 108 base pairs
- (B) TYPE: nucleic acid

- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

TTTCTTTCTT TCTTTTTCT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT  
60

CTTTCTTTCT TTCCCTTCTTT CTTTCTTTCT TTCTTTCTCC TTCCTTCC  
108

(2) INFORMATION FOR SEQ ID NO: 9:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 120 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

TTTCTTTCTT TCTTTTTCT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT  
60

CTTTCTTTCT TTCTTTCTTT CTTTCCTTCT TTCTTTCTTT CTTTCTTTCT CCTTCCTTCC  
120

(2) INFORMATION FOR SEQ ID NO: 10:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 126 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:

TTTCTTTCTT TCTTTCTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
60

TTCTTTCTTT CTTTCTTTCT TTCTTCCTTC CTTCCTTTCT TTCTTTCTCC TTCCTTCCTT  
120

CCTTCC  
126

(2) INFORMATION FOR SEQ ID NO: 11:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 130 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:

TTTCTTTCTT TCTTTCTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
60

TTCTTTCTTT CTTTCTTTCT TTCTTTCTTC CTTCCTTCCT TTCTTTCTTT CTCCTTCCTT  
120

CCTTCCTTC  
130

(2) INFORMATION FOR SEQ ID NO: 12:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 134 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

TTTCTTTCTT TCTTTCTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
60

TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTCCTTCCT TCCTTTCTTT CTTTCTCCTT  
120

CCTTCCTTCC TTCC

134

(2) INFORMATION FOR SEQ ID NO: 13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 170 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:

TTTCTTTCTT TCTTTCTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTGTCT  
60

GTCTGTCTGT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
120

TTCTTCCTTC CTTCCTTCCT TTCTTTCTTT CTCCTTCCTT CCTTCCTTCC

170

(2) INFORMATION FOR SEQ ID NO: 14:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 174 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

TTTCTTTCTT TCTTTCTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTGTCT  
60

GTCTGTCTGT CTGTCTTTCT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
120

TTCTTTCTTC CTTCCTTCCT TCCTTTCTTT CTTTCTCCTT CCTTCCTTC TTCC  
174

(2) INFORMATION FOR SEQ ID NO: 15:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 178 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:

TTTCTTTCTT TCTTTCTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
60

TTCTTTCTGT CTGTCTGTCT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
120

TTCTTTCTTT CTTTCTTCCT TCCTTCCTTT CTTTCTTTCT CCTTCCTTCC TTCCTTCC  
178

(2) INFORMATION FOR SEQ ID NO: 16:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 182 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:

TTTCTTCCTT TCTTTCTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
60

TTCTGTCTGT CTGTCTGTCT GTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
120

TTCTTTCTTT CTTTCTTCCT TCCTTCCTTC CTTTCTTTCT TTCTCCTTCC TTCCTTCCTT  
180

CC  
182

(2) INFORMATION FOR SEQ ID NO: 17:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 190 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:

TTTCTTTCTT TCTTTCTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
60

TTCTTTCTTT CTGTCTGTCT GTCTGTCTGT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
120

TTCTTTCTTT CTTTCTTTCT TTCTTTCTTC CTTCCCTTCCT TTCTTTCTTT CTCCTTCCTT  
180

CCTTCCTTCC

190

(2) INFORMATION FOR SEQ ID NO: 18:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 194 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:

TTTCTTTCTT TCTTTCTTT TTCTTTCTTT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
60

TTCTTTCTTT CTTTCTTTCT GTCTGTCTGT CTTTCTTTCT TTCTTTCTTT CTTTCTTTCT  
120

TTCTTTCTTT CTTTCTTTCT TTCTTTCTTC CTTCCCTTCCT TCCTTTCTTT CTTTCTTCCTT  
180

CCTTCCTTCC TTCC

194

(2) INFORMATION FOR SEQ ID NO: 19:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 113 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 19:

TCTATCTATC TATCTATCTG TCTGTCTGTC TGTCTGTCTG TCTATCTATC TATATCTATC  
60  
TATCTATCAT CTATCTATCC ATATCTATCT ATCTATCTAT CTATCTATCG TCT  
113

(2) INFORMATION FOR SEQ ID NO: 20:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 115 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20:

TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTGTCTATC TATCTATCAT  
60  
CTATCTATCC ATATCTATCT ATCTATCTAT CTATCTATCT ATCTATCTAT CGTCT  
115

(2) INFORMATION FOR SEQ ID NO: 21:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 119 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21:

TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTGTCTATC TATCTATCAT  
60

CTATCTATCC ATATCTATCT ATCTATCTAT CTATCTATCT ATCTATCTAT CTATCGTCT  
119

(2) INFORMATION FOR SEQ ID NO: 22:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 121 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:

TCTATCTATC TATCTATCTG TCTGTCTGTC TGTCTGTCTG TCTATCTATC TATATCTATC  
60

TATCTATCAT CTATCTATCC ATATCTATCT ATCTATCTAT CTATCTATCT ATCTATCGTC  
120

T

121

(2) INFORMATION FOR SEQ ID NO: 23:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 125 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 23:

TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTATCTATC TATATCTATC  
60

TATCTATCAT CTATCTATCC ATATCTATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CGTCT

125

(2) INFORMATION FOR SEQ ID NO: 24:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 129 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 24:

TCTATCTATC TATCTATCTG TCTGTCTGTC TGTCTGTCTG TCTATCTATC TATATCTATC  
60

TATCTATCAT CTATCTATCC ATATCTATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CTATCGTCT

129

(2) INFORMATION FOR SEQ ID NO: 25:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 133 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

TCTATCTATC TATCTATCTG TCTGTCTGTC TGTCTGTCTG TCTATCTATC TATATCTATC  
60

TATCTATCAT CTATCTATCC ATATCTATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CTATCTATCG TCT  
133

(2) INFORMATION FOR SEQ ID NO: 26:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 137 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

TCTATCTATC TATCTATCTA TCTATCTGTC TGTCTGTCTG TCTGTCTATC TATCTATATC  
60

TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CTATCTATCT ATCGTCT  
137

(2) INFORMATION FOR SEQ ID NO: 27:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 141 base pairs

- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 27:

TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTGTCTATC TATCTATATC  
60

TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CTATCTATCT ATCTATCGTC T  
141

(2) INFORMATION FOR SEQ ID NO: 28:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 143 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 28:

TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTGTCTATC TATCTATATC  
60

TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CTATCTATCT ATATCTATCG TCT  
143

(2) INFORMATION FOR SEQ ID NO: 29:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 147 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29:

TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTGTCTATC TATCTATATC  
60  
TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120  
CTATCTATCT ATCTATATCT ATCGTCT  
147

(2) INFORMATION FOR SEQ ID NO: 30:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 151 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTGTCTATC TATCTATATC  
60  
TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CTATCTATCT ATCTATCTAT ATCTATCGTC T  
151

(2) INFORMATION FOR SEQ ID NO: 31:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 155 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG TCTGTCTATC TATCTATATC  
60

TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT CTATCTATCT ATCTATCTAT  
120

CTATCTATCT ATCTATCTAT CTATATCTAT CGTCT  
155

(2) INFORMATION FOR SEQ ID NO: 32:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 157 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

TCTATCTATC TATCTATCTA TCTATCTATC TATCTATCTA TCTGTCTGTC TGTCTGTCTG  
60

TCTATCTATC TATATCTATC TATCTATCAT CTATCTATCC ATATCTATCT ATCTATCTAT  
120

CTATCTATCT ATCTATCTAT CTATCTATCT ATCGTCT  
157

(2) INFORMATION FOR SEQ ID NO: 33:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 161 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

TCTATCTATC TATCTATCTA TCTATCTATC TATCTATCTA TCTATCTGTC TGTCTGTCTG  
60

TCTGTCTATC TATCTATATC TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT  
120

CTATCTATCT ATCTATCTAT CTATCTATCT ATCTATCGTC T  
161

(2) INFORMATION FOR SEQ ID NO: 34:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 165 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: NO
- (iv) ANTI-SENSE: NO
- (vi) ORIGINAL SOURCE:
  - (A) ORGANISM: Homo sapiens
  - (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

TCTATCTATC TATCTATCTA TCTATCTATC TATCTATCTA TCTATCTGTC TGTCTGTCTG  
60

TCTGTCTATC TATCTATATC TATCTATCTA TCATCTATCT ATCCATATCT ATCTATCTAT  
120

CTATCTATCT ATCTATCTAT CTATCTATCT ATCTATCTAT CGTCT  
165

(2) INFORMATION FOR SEQ ID NO: 35:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 169 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

TCTATCTATC TATCTATCTA TCTATCTATC TATCTATCTA TCTATCTATC TATCTGTCTG  
60

TCTGTCTGTC TGTCTATCTA TCTATATCTA TCTATCTATC ATCTATCTAT CCATATCTAT  
120

CTATCTATCT ATCTATCTAT CTATCTATCT ATCTATCTAT CTATCGTCT  
169

(2) INFORMATION FOR SEQ ID NO: 36:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 32 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens
- (I) ORGANELLE: Mitochondrion

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 36:

AGAAAGAAAG AAAGAAAGAA AGAAAGAAAG AA  
32